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Water Supply Outlook For Idaho





SOIL CONSERVATION SERVICE U.S. DEPARTMENT OF AGRICULTURE

Cooperating with

IDAHO DEPARTMENT OF WATER RESOURCES

JAN. 1, 1980

TO RECIPIENTS OF WATER SUPPLY OUTLOOK REPORTS:

Most of the usable water in western states originates as mountain snowfall. This snowfall accumulates during the winter and spring, several months before the snow melts and appears as streamflow. Since the runoff from precipitation as snow is delayed, estimates of snowmelt runoff can be made well in advance of its occurrence. Streamflow forecasts published in this report are based principally on measurement of the water equivalent of the mountain snowpack.

Forecasts become more accurate as more of the data affecting runoff are measured. All forecasts assume that climatic factors during the remainder of the snow accumulation and melt season will interact with a resultant average effect on runoff. Early season forecasts are therefore subject to a greater change than those made on later dates.

The snow course measurement is obtained by sampling snow depth and water equivalent at surveyed and marked locations in mountain areas. A total of about ten samples are taken at each location. The average of these are reported as snow depth and water equivalent. These measurements are repeated in the same location near the same dates each year.

Snow surveys are made monthly or semi-monthly from January 1 through June 1 in most states. There are about 1900 snow courses in Western United States and in the Columbia Basin in British Columbia. Networks of automatic snow water equivalent and related data sensing devices, along with radio telemetry are expanding and will provide a continuous record of snow water and other parameters at key locations.

Detailed data on snow course and soil moisture measurements are presented in state and local reports. Other data on reservoir storage, summaries of precipitation, current streamflow, and soil moisture conditions at valley elevations are also included. The report for Western United States presents a broad picture of water supply outlook conditions, including selected streamflow forecasts, summary of snow accumulation to date, and storage in larger reservoirs.

Snow survey and soil moisture data for the period of record are published by the Soil Conservation Service by states about every five years. Data for the current year is summarized in a West-wide basic data summary and published about October 1 of each year.

COVER PHOTO: THE SNOTEL PROJECT CENTRAL COMPUTER FACILITIES IN PORTLAND, OREGON. THE TERMINAL, PRINTER, COMPUTER AND TAPE DRIVES HAVE NOT COMPLETELY REPLACED THE SNOW SAMPLING TUBES SEEN IN THE FOREGROUND.

PUBLISHED BY SOIL CONSERVATION SERVICE

The Soil Conservation Service publishes reports following the principal snow survey dates from January 1 through June 1 in cooperation with state water administrators, agricultural experiment stations and others. Copies of the reports for Western United States and all state reports may be obtained from Soil Conservation Service, West Technical Service Center, Room 510, 511 N.W. Broadway, Portland, Oregon 97209.

Copies of state and local reports may also be obtained from state offices of the Soil Conservation Service in the following states:

STATE	ADDRESS
Alaska	Room 129, 2221 East Northern Lights Blvd., Anchorage, Alaska 99504
Arizona	Room 3008, Federal Building, 230 N. First Ave., Phoenix, Arizona 85025
Colorado (N. Mex.)	P. O. Box 17107, Denver, Colorado 80217
Idaho	Room 345, 304 N. 8th. St., Boise, Idaho 83702
Montana	P. O. Box 98, Bozeman, Montana 59715
Nevada	P. O. Box 4850, Reno, Nevada 89505
Oregon	1220 S. W. Third Ave., Portland, Oregon 97204
Utah	4420 Federal Bldg., 125 South State St., Salt Lake City, Utah 84138
Washington	360 U. S. Court House, Spokane, Washington 99201
Wyoming	P. O. Box 2440, Casper, Wyoming 82602

PUBLISHED BY OTHER AGENCIES

Water Supply Outlook reports prepared by other agencies include a report for California by the Snow Surveys Branch, California Department of Water Resources, P.O. Box 388, Sacramento, California 95802 --- for British Columbia by the Ministry of the Environment, Water Investigations Branch, Parliament Buildings, Victoria, British Columbia V8V 1X5 --- for Yukon Territory by the Department of Indian and Northern Affairs, Northern Operations Branch, 200 Range Road, Whitehorse, Yukon Territory Y1A 3V1 --- and for Alberta, Saskatchewan, and N.W.T. by the Water Survey of Canada, Inland Waters Branch, 110-12 Avenue S.W, Calgary, Alberta T3C 1A6.



WATER SUPPLY OUTLOOK FOR IDAHO

and
FEDERAL - STATE - PRIVATE COOPERATIVE SNOW SURVEYS

Issued by

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WASHINGTON, D C

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WATER SUPPLY OUTLOOK for IDAHO







GENERAL SUMMARY FOR JANUARY 1, 1980

Snow surveys made near January 1, 1980 indicate that drought conditions which started with the severe shortage in 1977 continue to persist throughout Idaho. Snow accumulation is below to well below average throughout the State, ranging from 42 percent of normal on the Montpelier Creek drainage in southeastern Idaho to 99 percent of average on the Bruneau River watershed in southern Idaho and northern Nevada. One exception to this deficiency is the Jordan Creek area on the Owyhee River drainage in southwestern Idaho which has a snow accumulation well in excess of normal.

Based on present snow cover conditions the outlook for water supplies for the 1980 season indicates possible shortages throughout the State. The serious shortage of snow accumulation is further aggravated by deficient soil moisture, due to a very dry fall season, and very low carryover stored water in the reservoirs. A combination of sixteen irrigation reservoirs in the Snake River system which normally would be near 70 percent of capacity on the first of January contain only 45 percent of capacity on January 1, 1980.

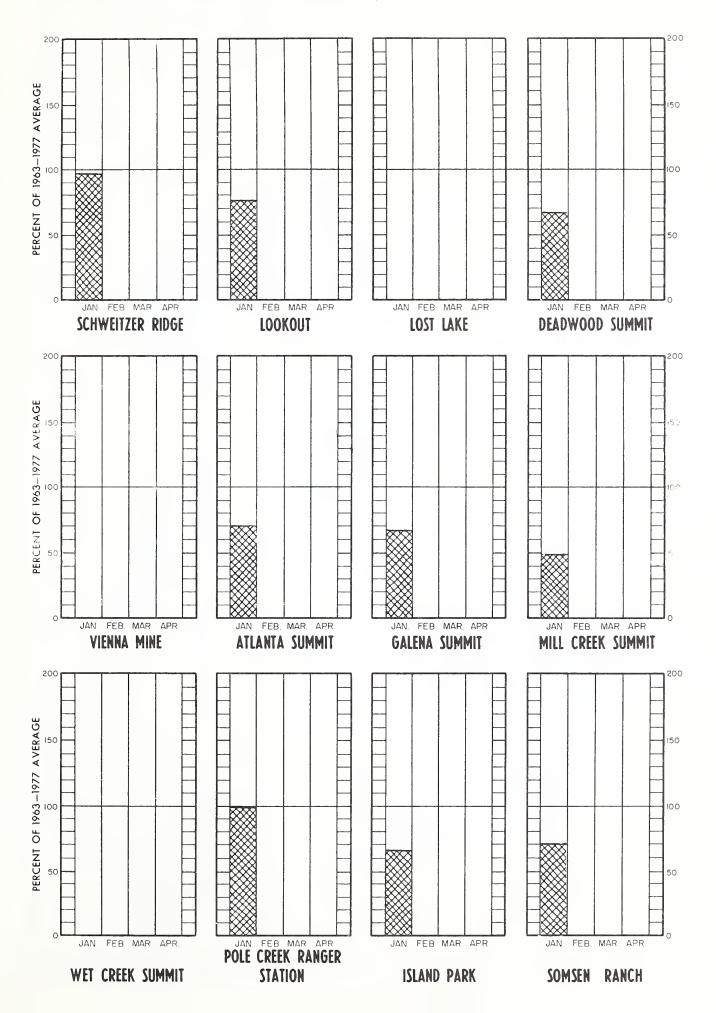
The National Weather Service reports that precipitation averaged well below normal for December in Idaho, while the temperature averaged above normal.

The precipitation averaged only 70 percent with a range from 111 percent at Porthill to a low of 11 percent at Grace. For the water year the State stands 75 percent of normal. Temperatures averaged 2° F. above normal in the southern portion of Idaho to 6° F. above in the northern portion of the State.

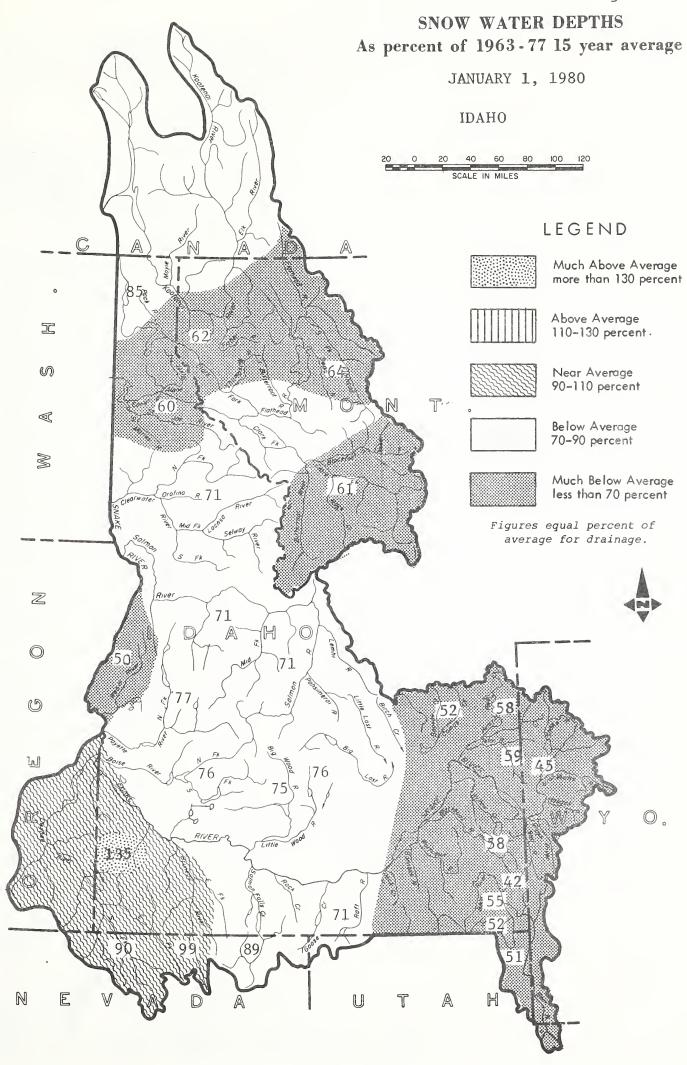
SNOW WATER DEPTHS ACCUMULATION For Selected Snow Courses

As Compared To 1963 - 1977 15 Year Average

JANUARY 1, 1980



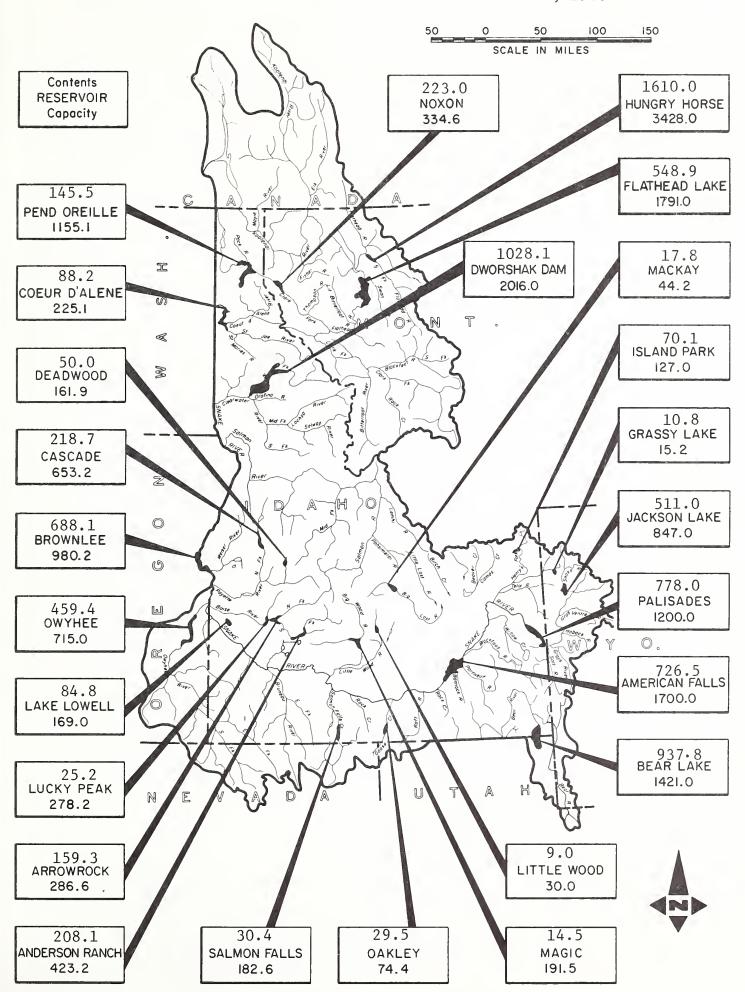
RIVER BASIN WATERSHED	NO.OF COURSES AVERAGED		SNOW WATER SPERCENT OF: 1963-77 AVERAGE
UPPER COLUMBIA RIVER BASIN			
Pend Oreille River Clark Fork River Flathead River Priest River Spokane River	56 42 14 4 3-5	56 51 70 160 70	62 61 64 85 60
LOWER SNAKE RIVER BASIN	10.12	77	71
Clearwater River Salmon River	10-13 12-14	74 118	71 71
MIDDLE SNAKE RIVER BASIN - Northside			
Big Lost River Little Wood River Big Wood River Boise River Payette River Weiser River	5 3-4 7-10 10-12 12-13 1	126 188 157 141 132 98	 76 75 76 77 50
MIDDLE SNAKE RIVER BASIN - Southside			
Raft River Salmon Falls Creek Bruneau River Owyhee River Jordan Creek	1 4 1 4 2	117 98 111 90 150	71 89 99 90 135
UPPER SNAKE RIVER BASIN			
Snake Basin - Above Palisades Res. Camas-Beaver Creeks Henrys Fork River Teton River Willow Creek Blackfoot River	9 2 7 4-7 9 2	50 77 69 68 70 52	45 52 58 59 58
GREAT BASIN			
Bear River - Upper Bear River - Lower Montpelier Creek Mink Creek Cub River	2-4 11 5 1 3	45 43 40 48 47	51 51 42 55 52



MEASURED (First of Month)					
RESERVOIR	USABLE CAPACITY	THIS YEAR	LAST YEAR	1963-77 AVERAGE	
UPPER COLUMBIA BASIN		,			
Clark Fork - Pend Oreille	2/00 0	1610 0	2/70 0	2624 0	
Hungry Horse	3428.0	1610.0	2478.0	2624.0	
Flathead	1791.0	548.9	1151.0	1428.0	
Pend Oreille	1155.1	145.5	158.5	730.8	
Noxon	334.6	223.0	282.2	318.7	
Spokane	225 1	88.2	46.8	143.3	
Coeur d'Alene	225.1	00.2	40.0	143.3	
SNAKE BASIN					
Snake					
Jackson Lake	847.0	511.0	566.8	599.7	
Palisades	1200.0	778.0	1132.7	1098.8	
American Falls	1700.0	726.5	1120.6	1019.3	
Island Park	127.0	70.1	110.9	92.4	
Grassy Lake	15.2	10.8		10.1	
Brownlee	980.2	688.1	700.5	1254.5	
Goose-Trapper Creeks					
Oakley	74.4	29.5	29.8	23.5	
Salmon Falls Creek					
Salmon Falls	182.6	30.4	28.9	39.2	
Big Lost					
Mackay	44.2	17.8	33.7	26.7	
Big Wood					
Magic	191.5	14.5	110.0	98.4	
Little Wood					
Little Wood	30.0	9.0	17.0	14.0	
Fish Creek					
Carey Valley	14.4	2.0*	4.7		
Boise					
Anderson Ranch	423.2	208.1	345.3	342.1	
Arrowrock	286.6	159.3	178.8	216.8	
Lucky Peak	278.2	25.2	68.9	81.9	
Lake Lowell (Deer Flat)	169.0	84.8	127.9	124.1	
<u>Owyhee</u>	7.7.		/51 0	010.0	
Owyhee	715.0	459.4	451.8	812.3	
Payette	(52.2	218.7	415.8	429.0	
Cascade	653.2	50.0	75.4	74.3	
Deadwood	161.9	30.0	73.4	74.5	
Weiser Mann Creek	11.1	2.1	3.1		
Clearwater	11.1	Z • I	2.1		
Dworshak	2016.0	1028.1	771.0		
DWOTSHAK	2010.0	1020.1	,,,,,		
GREAT BASIN					
Danas					
Bear Lake	1/21 0	937.8	978.9	971.8	
Bear Lake	1421.0	73/.0	3/0.9	3/1.0	
*Estimated					
"ESCIMACEO					

RESERVOIR STORAGE

USABLE CONTENTS (1,000 Acre Feet)
JANUARY 1, 1980





UPPER COLUMBIA RIVER BASIN

	•						
PEND OREILLE - PRIEST	RIVER						
Benton Meadow Benton Spring Schweitzer Bowl Schweitzer Ridge		2370 4900 4500 6200	1/2 1/2 1/3 1/3	6 24 39 60	1.1 5.9 11.0 19.7	1.7 3.1 6.8 11.9	2.9 8.3 13.0* 20.3*
SPOKANE RIVER							
Above Burke #Forty-nine Meadows Lookout #Lost Lake Sherwin	I OUTIN	4100 4840 5120 6080 3200	12/31 12/27 12/31 12/27 12/30	21 34 36 64 6	5.0 7.0 10.4 16.0 1.8	11.0 10.0 11.2 17.3 8.0	9.3* 13.7 5.5*
	LOWER	SNAKE I	RIVER BAS	SIN			
CLEARWATER							
Breezy Saddle Cayuse Airstrip Crater Meadows Crooked Fork Fish Lake Airstrip Forty-nine Meadows Hemlock Butte #Hoodoo Basin #Hoodoo Creek Lolo Pass Lost Lake Pierce Ranger Station Savage Pass Shanghai Summit	Mont. Mont.	5000 3500 6100 3600 5650 4840 5500 6000 5900 5240 6080 3170 6170 4600	12/27 12/27 12/27 12/27 12/27 12/27 12/26 12/26 12/27 12/27 Not 12/27 12/27	34 11 55 11 49 34 55 64 55 34 64 measu 33 25	6.8 1.8 14.0 2.0 11.7 7.0 13.5 18.8 14.8 8.8 16.0 red 7.7 5.0	10.1 6.8 15.3 6.9 16.1 10.0 15.2 20.2 17.9 14.8 17.3 6.8 12.4 11.1	 5.1* 18.3* 5.1* 16.1* 20.8* 22.3* 18.8* 11.5* 4.2 10.2* 9.9*
WEBB CREEK							
Kruse Meadows Soldier Meadow Webb Creek		4800 4640 4720	1/2 1/2 1/2	0 0 0	0.0 0.0 0.0	7.0 7.0 6.7	
SALMON RIVER							
#Banner Summit Big Creek Summit #Boulder Creek Brundage Mountain		7040 6600 5500 7560	12/26 12/27 12/28 12/27	47 48 26 61	10.1 11.8 5.1 19.5	7.2 9.6 5.2 12.0	 14.7 10.2 18.9*

SNOW			THIS YEAR		PAST RECORD		
DRAINAGE BASIN and/or SNOW COURSE		Date S	Snow Depth (Inches)	Water Content (Inches)	Water Content (inches)		
NAME	Elevation	OT Survey	(menes)	(menes)	Last Year	Average	
#Deadwood Summit	6750	12/26	60	15.2	9.8	22.79	
#Galena Summit	8780	12/26	39	6.9	5.8	10.4	
#Gibbons Pass Mont	. 7100	12/26	26	5.8	8.9	9.1	
Mill Creek Summit	8800	12/27	30	6.5	5.5	13.3	
Moose Creek	6200	12/31	17	3.2	6.6	6.9%	
Morgan Creek	7580	12/28	19	3.8	4.7	2.6%	
#Rock Flat Summit	5340	12/27	28	6.0	5.8	7.1	
#Secesh Summit	6520	12/28	43	10.5	8.7	16.6%	
#Squaw Meadow	5900	12/28	46	11.8	8.7	16.8	
Vienna Mine	8950	12/27	48	10.4	9.0		
MIDDLE ON	ARE DEGE	DAGTH	NODEN	TDE			
MIDDLE SN.	AKE RIVER	BASIN -	NORTHS	SIDE			
BIG LOST RIVER							
Bear Canyon	7920	12/27	28	4.0	3.1		
Copper Basin	7650	12/27	5	0.5	1.2	***	
Fishpole Lake	9350	12/27	24	5.5	4.2	****	
Lost-Wood Divide	7900	12/27	31	6.4	4.3	-	
Stickney Mill	7450	12/27	17	2.3	2.0		
		,	_,				
LITTLE WOOD RIVER							
#Bear Canyon	7920	12/27	28	4.0	3.1	-	
Garfield Ranger Station	6560	1/2	16	4.0	1.5	4.1%	
Muldoon	6300	1/2	14	3.0	1.2	3.2	
Swede Peak	7640	1/2	24	5.0	2.7	8.4*	
BIG WOOD RIVER							
#Couch Summit	6850	12/31	31	5.6			
Dollarhide Summit	8400	12/27	36	7.6	5.0	12.4*	
Galena	7300	12/26	36	6.1	3.4	7.8	
Galena Summit	8780	12/26	39	6.9	5.8	10.4	
Graham Ranch	6280	12/26	30	4.1	2.7	5.6	
#Lost-Wood Divide	7900	12/27	31	6.4	4.3		
Mascot Mine	7760	12/27	24	4.5	2.7	C100 C100	
Mount Baldy	9000	1/1	40	6.8	3.0	8.7*	
Soldier Ranger Station	6100	12/31	24	5.5	1.9	4.9*	
#Vienna Mine	8950	12/27	48	10.4	9.0		
BOISE RIVER							
Atlanta Summit	7500	12/27	50	10.7	6.9	15.2*	
Bad Bear	5500	12/28	21	4.2	4.4	5.2*	
#Bogus Basin	6340	$\frac{12}{28}$	33	8.3	5.2	9.6	
Bogus Basin Road	5520	$\frac{12}{28}$	10	2.0	2.8	2.9*	
Couch Summit	6850	$\frac{12}{20}$	31	5.6	2.8	7.2*	
Ouch Summit	0000	TC / 2T	ЭΤ	٥. د	2.0	1.25	

⁽b)1963-77, 15 year period. #Not located directly on this drainage. * Estimated 1963-77-15 year Verage. (A) Verial observation. Water content estimated. (SP) Pressure Pillow snow-water equivalent. (R) Radioactive Gage snow-water equivalent.

SNOW			THIS YEAR		PAST R	ECORD
DRAINAGE BASIN and/ or SNOW COURSE		Date	Snow Depth	Water Content	Water Conte	nt (inches)
NAME	Elevation	of Survey	(Inches)	(Inches)	Last Year	Average /
" "	04.00	10/07	0.6	7 (5 (10 / d
#Dollarhide Summit	8400	12/27	36	7.6	5.6	12.4*
Graham Guard Station	5690	12/27	23	5.0	4.0	
Jackson Peak	7070	12/26	44	9.4	7.5	15.1*
Moores Creek Summit	6100	12/28	38	9.2	7.0	13.0
#Soldier Ranger Station	6100	12/31	24	5.5	1.9	4.9*
Trinity Mountain	7780	12/27	53	13.5	8.4	15.6*
#Vienna Mine	8950	12/27	48	10.4	9.0	
PAYETTE RIVER						
Banner Summit	7040	12/26	47	10.1	7.2	
#Big Creek Summit	6600	12/27	48	11.8	9.6	14.7
Bogus Basin	6340	12/28	33	8.3	5.2	9.6
#Brundage Mountain	7560	12/27	61	19.5	12.0	18.9*
Cozy Cove	5400	12/26	31	6.0	4.8	7.0
Crawford Ranger Station	4800	12/27	21	3.3	2.0	3.0*
Deadwood Airstrip	5440	12/26	31	5.5	4.8	6.3*
Deadwood Summit	7000	12/26	60	15.2	9.8	22.7*
#Jackson Peak	7070	12/26	44	9.4	7.5	15.1*
Lake Fork	6000	12/28	21	4.3	6.1	6.5*
Rock Flat Summit	5340	12/27	28	6.0	5.8	7.1
Secesh Summit	6520	12/28	43	10.5	8.7	16.6*
Squaw Meadow	5900	12/28	46	11.8	8.7	16.8*
WEISER RIVER						
Boulder Creek	5500	12/28	26	5.1	5.2	10.2
Doulder Greek	3300	12/20	20	2.1	J•2	10.2
MIDDLE SNA	KE RIVER	BASIN -	- SOUTHS	SIDE		
RAFT RIVER						
Howell Canyon	7980	12/31	26	7.5	6.4	10.5
SALMON FALLS CREEK						
Deadline	6900	12/30	26	7.6	9.6	8.7*
Goat Creek Nev.	8800					
Magic Mountain	6700					
#Pole Creek Rgr. Sta. Nev.		•				9.1*
BRUNEAU RIVER						
Pole Creek Rgr. Sta. Nev.	8330	12/29	29	9.0	8.1	9.1*
OWYHEE RIVER						
South Mountain	6340	12/29	21	6.6	4.6	5.2
Joden Houstealn	0,540	14,49	~ 1	0.0	-T ● U	J • 2

SNOW			THIS YEAR		PAST R	ECORD
DRAINAGE BASIN and/or SNOW COURSE		Date		Water Content	Water Conte	ent (inches)
NAME	Elevation	of Survey	(Inches)	(Inches)	Last Year	Average /

UPPER SNAKE RIVER BASIN								
CAMAS-BEAVER CREEKS								
Camp Creek Kilgore		6800 6200	12/31 12/29	14 16	2.2	3.2 3.0	4.8 4.5	
HENRYS FORK RIVER								
Big Springs Grassy Lake Island Park Sawtell Mountain Targhee Pass Valley View White Elephant	Wyo.	6400 7230 6290 8720 7000 6740 7700	1/2 12/26 1/2 1/2 1/2 1/2 1/2	21 34 20 39 18 18 28	3.9 7.1 4.0 10.6 2.7 2.8 6.3	7.6 15.8 6.5 8.5 4.3 5.0 6.6	7.8 14.4 6.2 14.1* 6.2* 6.4 8.9*	
TETON RIVER								
Darby Canyon Freds Mountain Indian Meadows Jackpine Creek McRenolds Reservoir Pine Creek Pass State Line	Wyo. Wyo. Wyo.	8250 8150 8240 7350 6800 6750 6650	1/3 12/27 12/28 12/28 12/28 12/27 12/27	28 27 41 23 23 17	6.0 6.0 11.0 5.2 4.6 3.3 3.0	10.0 9.2 14.1 8.8 9.0 7.0 8.6	9.5* 8.6* 6.9 5.9	
WILLOW CREEK								
Aspen Grove Birch Creek Blue Ridge Bone Brockman Station Hell Creek Mud Creek Sheep Mountain Tex Creek		6500 6800 6800 6200 6430 7100 7150 6570 6650	1/26 1/27 1/27 1/27 1/27 1/27 1/27 1/27 1/26	19 16 20 7 15 15 19 15	4.1 3.0 4.0 0.9 2.6 3.2 3.7 2.7	4.0 4.0 5.7 2.6 4.2 6.0 3.0 5.5 3.8	 3.0* 	
BLACKFOOT RIVER								
Slug Creek Divide Somsen Ranch		7230 7000		18 18	3.7 4.0	6.9 7.9	7.5* 5.7*	
		GREAT	BASIN					
BEAR RIVER								
Emigrant Summit		7380	12/27	24	5.2	10.8	9.4*	

SNOW			THIS YEAR	Y	PAST R	ECORD
DRAINAGE BASIN and/or SNOW COURSE		Date	Snow Depth	Water Content	Water Content (inches)	
NAME	Elevation	of Survey	(Inches)	(Inches)	Last Year	Average /,
MONTPELIER CREEK						
Giveout	6840	12/26	13	2.3	5.7	4.8
Little Beaver	6970	12/26	11	2.0	7.5	5.7
Montpelier Creek	6570	12/26	8	1.4	2.5	3.4
Whiskey Flat	6960	12/26	8	1.2	4.1	3.6
MINK CREEK						
#Emigrant Summit	7380	12/27	24	5.2	10.8	9.4*
CUB RIVER						
Cub River Rgr. Sta. #Franklin Basin Willow Flat	5400 8000 6100	12/27 12/27 12/27	13 21 16	2.5 4.1 3.4	3.6 9.7 8.1	3.4* 9.9* 5.9*



Agencies and Organizations Cooperating in Idaho Snow Surveys

GOVERNMENT AGENCIES

States:

Idaho Department of Water Resources
State of Idaho Department of Fish and Game
University of Idaho
Idaho State University
Montana Agricultural Experiment Station
Montana State Water Conservation Board
Montana Cooperative Snow Surveys
Nevada Cooperative Snow Surveys
Oregon Agricultural Experiment Station
Oregon Cooperative Snow Surveys
Oregon State Engineer and Corps of
State Watermasters
Utah Cooperative Snow Surveys
Wyoming Cooperative Snow Surveys

Federal:

- U.S. Army Engineers
- U.S. Department of Agriculture Forest Service Agricultural Research Service Statistical Reporting Service
- U.S. Department of Commerce NOAA, National Weather Service
- U.S. Department of the Interior
 Bonneville Power Administration
 Bureau of Reclamation
 Fish and Wildlife Service
 Water Resources Division, Geological Survey
 National Park Service
 Bureau of Land Management

PUBLIC UTILITIES

The Montana Power Company Washington Water Power Company Idaho Power Company Utah Power and Light Company

ORGANIZED PUBLIC AGENCIES

Big Lost River Irrigation District
Blaine Soil Conservation District
Boise Project Board of Control
Idaho Water District #01
Little Wood River Irrigation District
Mann Creek Irrigation District
Salmon Falls Creek Irrigation Company
Twin Falls Soil Conservation District
Big Wood Irrigation Company
Owyhee Project - North & South Board of Control
Valley Soil Conservation District
Portneuf Soil and Water Conservation District

UNITED STATES DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE

304 N. 8TH ST. Boise, IDAHO 83702 Room 345

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23

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PROCURE LINET SECTIONS CURRENT SERIAL RECORDS

COOPERATIVE SNOW SURVEYS FEDERAL - STATE - PRIVATE

domestic and municipal water supply, hydro-electric power water supply for irrigation, necessary for forecasting Furnishes the basic data generation, navigation, mining and industry "The Conservation of Water begins with the Snow Survey"

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